

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

### AMENDMENTS TO THE CLAIMS

Please **REWRITE** claims 1-2, 5-8, 11-13, 25, 27-28, 37, 39-40, 48, 50, 52-53, 55-56, 59-61, 64-66, and 69. For the Examiner's convenience, this Amendment includes the text of all claims under examination, a parenthetical expression for each claim to indicate the status of the claim, and markings to show changes relative to the immediate prior version of each currently amended claim.

- B1
1. (Currently Amended) A system for estimating the prevalence of digital content on a network, comprising:  
an estimating device that receives ~~[[stores]]~~ traffic data collected from the network;  
an anonymizing device that locates user identification data in the traffic data, masks the user identification data to produce clean traffic data, and stores the clean traffic data;  
a sampling device that stores summarization data ~~summarized traffic data~~ that describe each occurrence of the digital content in the clean traffic data; and  
an accessing device that presents the clean traffic data and the summarization data ~~summarized traffic data~~ to a user.
  2. (Currently Amended) The system of claim 1, wherein the estimating device receives ~~retrieves~~ the traffic data from at least one proxy cache server.
  3. (Previously Presented) The system of claim 1, wherein the sampling device computes the number of impressions of the digital content for a web site on the network.

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

4. (Previously Presented) The system of claim 1, wherein the sampling device includes:
- a prober that fetches a web page from the network;
  - an extractor that locates a fragment of the web page that includes the digital content; and
  - a classifier that performs a structural analysis of the fragment to classify the digital content.
5. (Currently Amended) The system of claim 1, wherein the accessing device generates a report when the clean traffic data or the summarization data ~~summarized traffic data~~ satisfy at least one criterion.
6. (Currently Amended) A method of estimating the prevalence of digital content on a network, comprising the steps of:
- estimating the global traffic to [[a]] at least one Web site on the network to provide traffic data;
  - locating user identification data in the traffic data;
  - masking the user identification data to produce clean traffic data;
  - statistically sampling the contents of said [[said]] at least one Web site to provide sampling data;
  - storing the clean traffic data and the sampling data; and
  - accessing the clean traffic data and the sampling data to generate a report.
7. (Currently Amended) A system for estimating the prevalence of digital content on a network connected to at least one network site that includes at least one network server to access at least one uniform resource locator, the system comprising:

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

a database;

a traffic analysis system that receives traffic data from a traffic sampling system, locates user identification data in the traffic data, masks the user identification data to produce clean traffic data, and stores the clean traffic data from a traffic sampling system in the database, the traffic data including said at least one uniform resource locator;

a digital content sampling system that stores the digital content at said at least one uniform resource locator in the database; and

a statistical summarization system that stores summarization data that describe the digital content in the database.

8. (Currently Amended) The system of claim 7, further comprising:

a Web front end that connects to the network and the database, wherein a client ~~client~~ uses a browser to connect to the Web front end.

9. (Previously Presented) The system of claim 7, further comprising:

a user interface that an account manager, an operator, or a media editor can use to administer the system.

10. (Original) The system of claim 7, wherein the network is the Internet, and wherein the network site is a Web site.

11. (Currently Amended) The system of claim 7, wherein to mask the user identification data in

Application Serial Number. 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

7  
where  
bl  
the traffic data the traffic analysis system replaces the user identification data with a result from processing the user identification data through a cryptographically secure one-way hash function. further comprises:  
~~an anonymity system that receives the traffic data sample from the traffic sampling system and produces a clean traffic data sample; and~~  
~~a traffic summarization system that produces a summarization of the clean traffic data sample and stores the traffic data sample in the database.~~

12. (Currently Amended) The system of claim 11, wherein the user identification data includes ~~anonymity system produces a clean traffic data sample by removing a network address or a cookie from the traffic data sample.~~
13. (Currently Amended) The system of claim 11, wherein the summarization ~~of the clean~~ traffic data sample includes a reference to said at least one uniform resource locator and a count ~~[[tally]]~~ of the number of requests for ~~[[times]]~~ said at least one uniform resource locator ~~was requested.~~
14. (Previously Presented) The system of claim 7, wherein the digital content sampling system further comprises:  
a probe mapping system that uses the summarization data to create a probe map for the network, the probe map including a mapping for said at least one uniform resource locator;  
a uniform resource locator retrieval system that retrieves said at least one uniform resource

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

locator from the network server;

a browser emulation environment that conducts a simulation of the display of said at least

one uniform resource locator in a browser;

a digital content extractor that stores the digital content from said at least one uniform

resource locator in the database; and

a structural classifier that stores at least one classification type for the digital content in the  
database.

15. (Previously Presented) The system of claim 14, wherein the probe map further comprises:

a probability of the likelihood that said at least one uniform resource location will be

sampled; and

a scale that determines the contribution of said at least one uniform resource location to the  
summarization data.

16. (Original) The system of claim 14, wherein the simulation includes executing a program  
embedded in said at least one uniform resource locator.

17. (Previously Presented) The system of claim 16, wherein the program is a JavaScript script, a  
Java applet, a Perl script, or a common gateway interface program.

18. (Original) The system of claim 14, wherein the simulation includes executing dynamic  
digital content in said at least one uniform resource locator.

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

19. (Previously Presented) The system of claim 18, wherein the dynamic content is an interlaced GIF image, an MPEG movie, or an MP3 audio file.
20. (Previously Presented) The system of claim 14, wherein the digital content extractor retrieves the digital content from said at least one uniform resource locator by applying a rule set defined by a media editor.
21. (Previously Presented) The system of claim 14, wherein the digital content extractor retrieves the digital content from said at least one uniform resource locator by using an automated digital content detection system.
22. (Previously Presented) The system of claim 21, wherein the automatic digital detection system comprises:  
a structural detector that locates an XML structure; and  
a feature detector that locates an XML feature within the XML structure.
23. (Previously Presented) The system of claim 14, wherein the structural classifier determines said at least one classification type for the digital content.
24. (Previously Presented) The system of claim 7, wherein the user interface further comprises:  
a system account management interface that assists the account manager with creating and modifying an account on the system;  
a site administration interface that assists the operator with the administration of said at least

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

one network site;

a taxonomy administration interface that assists the media editor with the administration of  
the taxonomy data;

a digital content classification interface that assists the media editor with the classification of  
the digital content; and

a rate card collection interface that assists the media editor with the administration of the  
rate card data.

25. (Currently Amended) A system for estimating prevalence of digital content on a network,  
comprising:

a memory device; and

a processor disposed in communication with the memory device, the processor configured  
to:

obtain traffic data from at least one Web site on the network;

locate user identification data in the traffic data;

mask the user identification data to produce clean traffic data;

compute a number of impressions for the digital content in the clean traffic data;

retrieve the digital content from the clean traffic data to generate sampling data; and

generate prevalence estimates for the digital content from the clean traffic data and  
the sampling data.

26. (Previously Presented) The system of claim 25, wherein the processor is further configured  
to:

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

retrieve a Web page from said at least one Web site:

extract a fragment from the Web page; and

classify the fragment.

27. (Currently Amended) The system of claim 25, wherein to mask the user identification data in the traffic data the processor is further configured to:

replace the user identification data with a result from processing the user identification data through a cryptographically secure one-way hash function ~~generate the traffic data by retrieving anonymous traffic data.~~

28. (Currently Amended) The system of claim 27, wherein the user identification includes a network address or a cookie, ~~processor is further configured to:~~

~~retrieve anonymous data samples by removing data from the traffic data that identifies a user on the network.~~

29. (Previously Presented) The system of claim 25, wherein the processor is further configured to:

classify a fragment within the sampling data.

30. (Previously Presented) The system of claim 29, wherein the processor is further configured to:

classify the fragment by analyzing the fragment for uniqueness and adding information to a database regarding the uniqueness of the fragment.



Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

31. (Previously Presented) The system of claim 30, wherein the processor is configured to:  
classify the fragment by detecting a duplicate fragment.
32. (Previously Presented) The system of claim 25, wherein the processor is further configured  
to:  
interact with a user interface that administers the system.
33. (Previously Presented) The system of claim 25, wherein the processor is further configured  
to:  
include uniform resource locator information regarding said at least one Web site in the  
traffic data.
34. (Previously Presented) The system of claim 25, wherein the processor is further configured  
to:  
perform data integrity monitoring of the sampling data.
35. (Previously Presented) The system of claim 25, wherein the processor is further configured  
to:  
serve as an automatic digital content detection system.
36. (Previously Presented) The system of claim 35, wherein the automatic advertisement  
detection system applies at least one heuristic algorithm to detect digital content within an

Application Serial Number. 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

HTML or an XML document and normalizes the detected HTML or XML content into a hierarchical form.

37. (Currently Amended) A method for using a computer to estimate the prevalence of digital content on a network, comprising the steps of:  
obtaining traffic data from at least one Web site on the network;  
locating user identification data in the traffic data;  
masking the user identification data to produce clean traffic data;  
computing a number of impressions for the digital content in the clean traffic data ~~from said~~  
~~at least one Web site;~~  
retrieving the digital content from the clean traffic data to generate sampling data; and  
generating prevalence estimates for the digital content from the clean traffic data and the  
sampling data.
38. (Previously Presented) The method of claim 37, wherein retrieving the digital content further comprises the steps of:  
retrieving a Web page from said at least one Web site;  
extracting a fragment from the Web page; and  
classifying the fragment.
39. (Currently Amended) The method of claim 37, wherein the masking of the user identification data in the traffic data further comprises: ~~the traffic data is anonymous;~~  
replacing the user identification data with a result from processing the user identification

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

data through a cryptographically secure one-way hash function.

- B1
40. (Currently Amended) The method of claim 39, wherein the user identification includes a network address or a cookie, ~~traffic data is made anonymous by removing data from the traffic data that identifies a user on the network~~.
41. (Previously Presented) The method of claim 37, further comprising the step of:  
classifying a fragment within the sampling data.
42. (Previously Presented) The method of claim 41, wherein classifying the fragment further comprises the steps of:  
analyzing fragment for uniqueness; and  
adding information to a database regarding the uniqueness of the fragment.
43. (Previously Presented) The method of claim 42, further comprising the step of:  
classifying the fragment by detecting a duplicate fragment.
44. (Previously Presented) The method of claim 37, further comprising the step of:  
interacting with a user interface that administers the system.
45. (Previously Presented) The method of claim 37, further comprising the step of:  
including uniform resource locator information regarding said at least one Web site in the  
traffic data.

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

46. (Previously Presented) The method of claim 37, further comprising the step of:  
performing data integrity monitoring of the sampling data.
47. (Previously Presented) The method of claim 37, further comprising the steps of:  
performing automatic advertisement detection by applying at least one heuristic algorithm to  
detect advertising within an HTML or an XML document; and  
normalizing the detected HTML or XML content into a hierarchical form.
48. (Currently Amended) A computer readable medium comprising:  
code for obtaining traffic data from at least one Web site on the network;  
code for locating user identification data in the traffic data;  
code for masking the user identification data to produce clean traffic data;  
code for computing a number of impressions of digital content in the clean traffic data;  
code for retrieving the digital content from the clean traffic data to generate sampling data;  
and  
code for generating prevalence estimates for the digital content from the clean traffic data  
and the sampling data.
49. (Previously Presented) The computer readable medium of claim 48, further comprising:  
code for retrieving a Web page from said at least one Web site;  
code for extracting a fragment from the Web page; and  
code to classify the fragment.

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number 4421-4001

50. (Currently Amended) A system for estimating prevalence of digital content on a network, comprising:
- means for obtaining traffic data from at least one Web site on the network;
- means for locating user identification data in the traffic data;
- means for masking the user identification data to produce clean traffic data;
- means for computing a number of impressions for the digital content in the clean traffic data;
- means for retrieving the digital content from the clean traffic data to generate sampling data;
- and
- means for generating prevalence estimates of the digital content from the clean traffic data and the sampling data.
51. (Previously Presented) The system of claim 50, further comprising:
- means for classifying a fragment extracted from a Web page.
52. (Currently Amended) The system of claim 50, further comprising:
- means for replacing the user identification data with a result from processing the user identification data through a cryptographically secure one-way hash function anonymizing the traffic data.
53. (Currently Amended) A system of estimating prevalence of digital content on a network, comprising:

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

means for estimating global traffic to at least one Web site on the network to provide traffic data;

means for locating user identification data in the traffic data;

means for masking the user identification data to produce clean traffic data;

means for statistically sampling the contents of said at least one Web site to provide sampling data;

means for storing the clean traffic data and the sampling data; and

means for generating prevalence estimates for the digital content by accessing the clean traffic data and the sampling data.

54. (Previously Presented) The system of claim 53, further comprising:

means for reporting the prevalence estimates to a user.

55. (Currently Amended) A method for using a computer to estimate the prevalence of digital content on a network, comprising the steps of:

receiving traffic data from the network;

locating user identification data in the traffic data;

masking the user identification data to produce clean traffic data;

storing the clean traffic data collected from the network;

storing summarization data ~~summarized traffic data~~ that describe each occurrence of the digital content in the clean traffic data; and

presenting the clean traffic data and the summarization data ~~summarized traffic data~~ to a user.

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

56. (Currently Amended) The method of claim 55, wherein the receiving of the traffic data is from at least one proxy server, storing traffic data further comprises the step of: retrieving the traffic data from at least one proxy server.
57. (Previously Presented) The method of claim 55, wherein storing summarized traffic data further comprises the step of:  
computing the number of impressions of the digital content for a web site on the network.
58. (Previously Presented) The method of claim 55, wherein storing traffic data further comprises the steps of:  
fetching a web page from the network;  
locating a fragment of the web page that includes the digital content; and  
performing a structural analysis of the fragment to classify the digital content.
59. (Currently Amended) The method of claim 55, wherein presenting the clean traffic data and the summarization data ~~summarized traffic data~~ further comprises the step of:  
generating a report when the clean traffic data or the summarization data ~~summarized traffic data~~ satisfy at least one criterion.
60. (Currently Amended) A system for estimating prevalence of digital content on a network, comprising:  
a memory device; and

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

a processor disposed in communication with the memory device, the processor configured

to:

receive traffic data from the network;

locate user identification data in the traffic data;

mask the user identification data to produce clean traffic data;

store the clean traffic data collected from the network;

store summarization data ~~summarized traffic data~~ that describe each occurrence of

the digital content in the clean traffic data; and

present the clean traffic data and the summarization data ~~summarized traffic data~~ to a user.

61. (Currently Amended) The system of claim 60, wherein the receiving of the traffic data is from at least one proxy server. ~~the processor retrieves the traffic data from at least one proxy cache server.~~

62. (Previously Presented) The system of claim 60, wherein the processor computes the number of impressions of the digital content for a web site on the network.

63. (Previously Presented) The system of claim 60, wherein the processor is further configured to:

fetch a web page from the network;

locate a fragment of the web page that includes the digital content; and

perform a structural analysis of the fragment to classify the digital content.



Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

64. (Currently Amended) The system of claim 60, wherein the processor generates a report when the clean traffic data or the summarization data ~~summarized traffic data~~ satisfy at least one criterion.
65. (Currently Amended) A computer readable medium comprising:  
code for receiving traffic data from the network;  
code for locating user identification data in the traffic data;  
code for masking the user identification data to produce clean traffic data;  
code for storing the clean traffic data ~~collected from the network;~~  
code for storing summarization data ~~summarized traffic data~~ that describe each occurrence of the digital content in the clean traffic data; and  
code for presenting the clean traffic data and the summarization data ~~summarized traffic data~~ to a user.
66. (Currently Amended) The computer readable medium of claim 65, the receiving of the traffic data is from at least one proxy server, further comprising:  
code for retrieving the traffic data from at least one proxy cache server.
67. (Previously Presented) The computer readable medium of claim 65, further comprising:  
code for computing the number of impressions of the digital content for a web site on the network.

Application Serial Number: 09/695,216  
1.111 Amendment dated March 4, 2004  
Reply to Office Action dated November 4, 2003

Attorney Docket Number: 4421-4001

68. (Previously Presented) The computer readable medium of claim 65, further comprising:

code for fetching a web page from the network;

code for locating a fragment of the web page that includes the digital content; and

code for performing a structural analysis of the fragment to classify the digital content.

69. (Currently Amended) The computer readable medium of claim 65, further comprising:

code for generating a report when the clean traffic data or the summarization data

~~summarized traffic data~~ satisfy at least one criterion.

---